Region 1, New England

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND REGION
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

APR 2 8 2016

Mr. Joseph Carbone, President
PHA Industries, Inc.
153 Quabbin Blvd.
Orange, MA 01364

Re: **Notice of Noncompliance** Regarding the Emergency Planning and Community Right-to-Know Act (EPCRA) and the General Duty Clause (GDC) of the Clean Air Act (CAA) for PHA Industries, Inc.

Dear Mr. Carbone:

On July 7, 2014, a representative of the United States Environmental Protection Agency (EPA) conducted an inspection of the PHA Industries, Inc., in Orange, MA. The purpose of the inspection was to determine the facility's compliance with the Section 313 Toxic Release Inventory (TRI) provisons of EPCRA and the prevention of accidental release provisions under Section 112(r) of the CAA. EPA apologizes for not providing this notice of non-complaince earlier, but resource constraints inhibit the speed with which matters can be addressed.

Section 313 of EPCRA

Based on information obtained during the inspection and information provided after the inspection, your facility does not have a Toxic Release Inventory reporting obligation because they are below the employee threshold of 10 employees. If the PHA Industries exceeds the 10 FTE threshold in the future, it will likely have to report.

General Duty Clause

During the inspection, EPA identified a violation of Section 112(r)(1) of the CAA. The goal of Section 112(r) of the CAA is to reduce the risk of chemical accidents. Pursuant to the GDC, owners and operators of stationary sources that produce, process, handle, or store extremely hazardous substances must (a) identify hazards which may result from accidental releases of such substances using appropriate hazard assessment techniques; (b) design and maintain a safe facility taking such steps as are necessary to prevent releases; and (c) minimize the consequences of accidental releases that do occur. To satisfy these mandates, it is necessary to meet with industry practices. In accordance with industry standards (including but not limited to National

Fire Protection Association (NFPA) 30; Flammable and Combustible Liquids – 2008 and CAA112(r)(1)).

- Incompatible chemicals were stored next to each other (hydrochloric acid is incompatible with ethyl acetate and the other flammable chemicals in the chemical storage building ("The Pad")) (NFPA 30; 9.17.1),
- There was no aisle space between chemicals in the building (NFPA 30; 13.3.5), and
- The facility stores and processes Class 1 flammable chemicals and stated during the inspection that they do not have process hazard review for any chemicals (CAA112(r)(1)) or a Hazards Analysis (NFPA 30; 6.4).

Within 45 days of receipt of this letter, please submit a description of actions taken to address the General Duty Clause violation listed above with supporting documentation of the actions PHA Industries will take so the General Duty Clause violations do not occur in the future to:

Chris Rascher
RCRA, EPCRA and Federal Programs Unit
U.S. Environmental Protection Agency
5 Post Office Square – Suite 100
Mail Code: OES05-1
Boston, MA 02109-3912

Thank you in advance for your attention to these matter. Please be aware that EPA reserves the right to take any further enforcement action regarding these or any other federal environmental violations committed by POSCO.

If you have any questions concerning this NON or your obligations under EPCRA Section 313 or under Section 112(r) of the Clean Air Act, please contact Chris Rascher at (617) 918-1834.

Sincerely,

Susan Studlien

Susan Studlien, Director
Office of Environmental Stewardship

cc: Chris Rascher, EPA Region I

Emergency Planning and Community Right-To-Know Act
Toxic Release Inventory (TRI) EPCRA 313 and General Duty Clause (GDC) of the Clean Air Act (CAA) Section 112(r)

Inspection Report

Facility Name: PHA Industries
Facility Address: 153 Quabbin Blvd., Orange, MA 01364

Date of Inspection: July 7, 2014

Inspector: Chris Rascher
Office of Environmental Stewardship
RCRA, EPCRA and Federal Program Unit
U.S. Environmental Protection Agency, Region 1

Inspection Report:
Prepared by: _____Chris Rascher_____ Date: 4 /19/16

TRI Inspection Report

Facility Name: PHA Industries
Facility Address: 153 Quabbin Blvd., Orange, MA

Facility Telephone Number: (978) 544-8770
Facility TRI ID Number: NA

Inspectors: Chris Rascher
Inspection Date: July 7, 2014

Arrival time: Approximately 11:30 AM
Type of Inspection: EPCRA 313
Current Owner: PHA Industries
Current Operator:
Parent Company: PHA Industries

Notice of Inspection prepared by: Chris Rascher
Entry/ Opening Conference
Credentials Displayed? Yes
Purpose of Inspection Explained? Yes
Notice of Inspection presented and signed by facility contact? Yes
Attempt to deny entry? No
Facility Representatives Present:
Mike Carbone, Vice President

Primary NAICS Code: 325199 All other Basic Organic Chemicals

Number of Full Time Employees: 8 full time (5 days a week)
Annual Sales:
Facility square feet: Approximately 10,000 sq ft.

The facility was targeted for a Toxic Release Inventory (TRI) inspection because the facility's Tier 2 report for reporting year 2012 showed acrylamide a TRI reportable chemical usage at 37,125 pounds, ethylene glycol (a TRI chemical) stored in quantities up to 48,000 pounds and triethylamine (30%) (a TRI chemical) stored in quantities up to 18,000 pounds. Aerial photographs of the facility suggested it was small and not more than 6 cars were observed parked near the facility. The facility exceeded the threshold quantity of acrylamide and possibly other TRI chemicals however the facility did not exceed the 10 FTE reporting threshold (15,000 hours rather than the minimum of 20,000 hours per year). The facility does not have to report for TRI because they do not exceed the 10 FTE threshold, however, there were concerns with their chemical storage.

During the inspection, I observed several General Duty Clause concerns). The chemical storage building also called the "Pad" stored flammable chemicals but did not have signage indicating there were flammable chemicals present; (except for one no smoking sign) there was no aisle space between chemicals, and strong acids were stored next to organic flammable chemicals (incompatible chemicals). The facility stated that they do not have process hazard analysis for any chemicals.

Facility

PHA Industries manufactures specialty chemicals with its main products being fluoro-surfactants used for microelectronics (solvents) and chemical release agents for plastic molds. The facility synthesizes chemicals in a batch process usually over an eight hour process. Their main product is glycol based and ethylene glycol is their main base chemical. For their main product ethylene glycol is added to their 1,000 gallon reaction vessel and then three other chemicals are added. It is heated over an eight hour period. The tank is pressurized to "pump out" the product into 55 gallon drums. The reaction vessels are not pressurized during reactions but may be pressurized to pump out vessels. Roughly, Mike Carbone said that they do 10,000 pounds per batch, 120,000 pounds per month and 1,000,000 pounds per year.

Facility walkthrough

The chemical reaction building had two floors with five reaction vessels which are lined with stainless steel or glass interiors. The sizes ranged from 50 gallons to 1,500 gallons. Each reactor is jacketed for cooling and heating. Generally chemicals are added to the top of the vessel on the second floor and dispensed on the first floor.

Chemical Storage Room

The facility had a chemicals storage building that they called the "Pad." I observed the "pad" was completely full with no aisle space between drum and totes within the building walls. Among other items the "pad" contained 7 drums of glycol ether DB (NFPA flammability 2), 6 drums of acetonitrile (NFPA flammability 3), 2 totes of dioxane (NFPA flammability 3), 2 drums of hydrochloric acid (NFPA health 3) , a drum of heptane, a drum of monochlorobenzene, a drum of isopropyl alcohol, drum of ethyl acetate, and others. I did not observe a fire suppression system within the building and I did not observe any signage on the exterior of the building indicating the presence of flammable chemicals. I observed that the 20 Baume

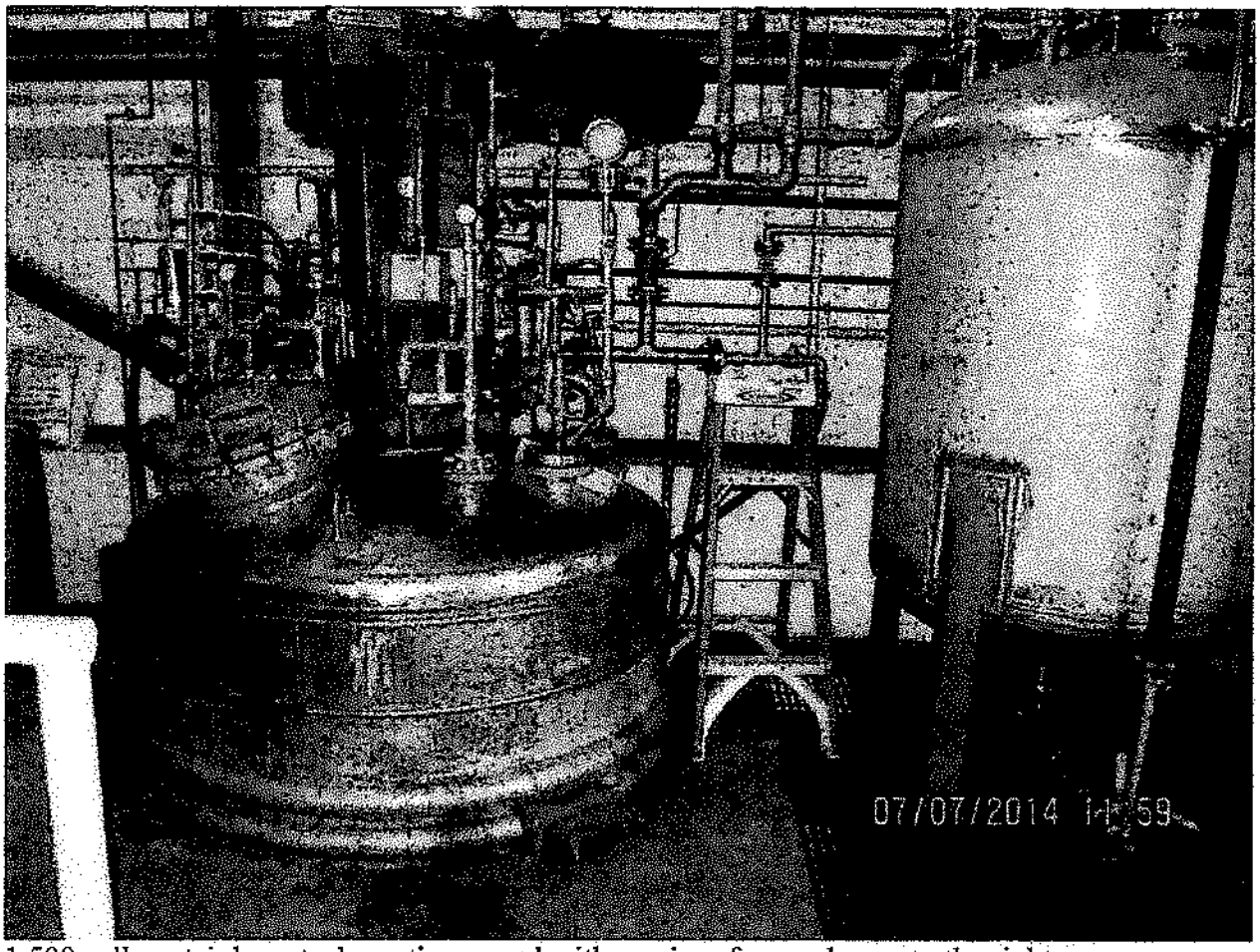
(approximately 30%) hydrochloric acid drums were directly adjacent drums of flammable liquids including ethyl acetate.

Data Review
Data was reviewed after the inspection. The accountant for PHA ran a wage and earnings report to determine Total FTEs (Full Time Equivalents). They found that approximately 16,000 hours were on payroll which is below the 20,000 hour minimum FTE hours.

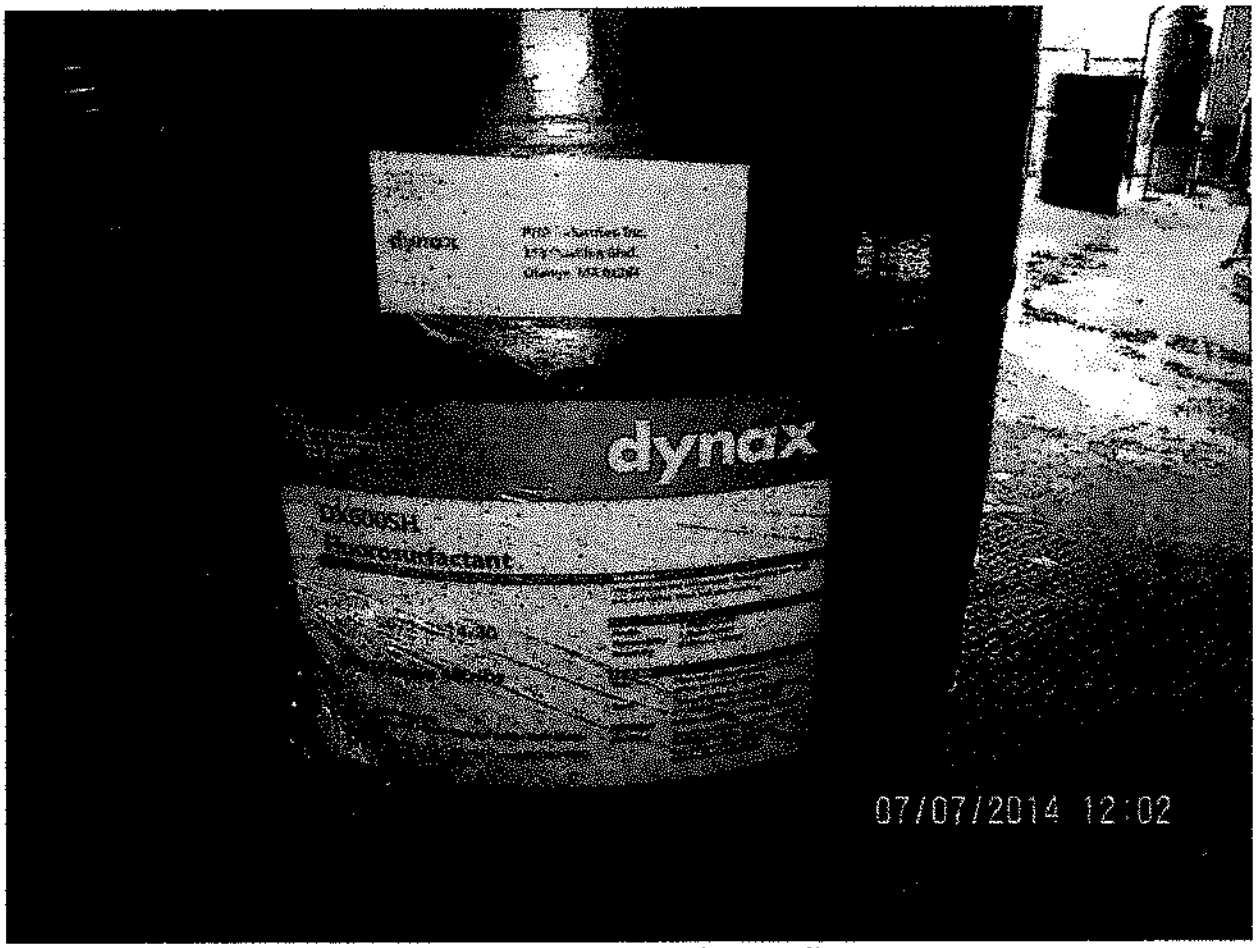
The chemical usage for TRI chemicals was provided in subsequent written correspondence dated July 7, 2014. The information provided included a tally of chemicals used in 2013. Of the various chemicals used, 3 exceeded the TRI reporting threshold, they were: Acrylamide 107,470 pounds, Certain Glycol Ether DB 46,870 pounds, and ethylene glycol 185,725 pounds.

Findings

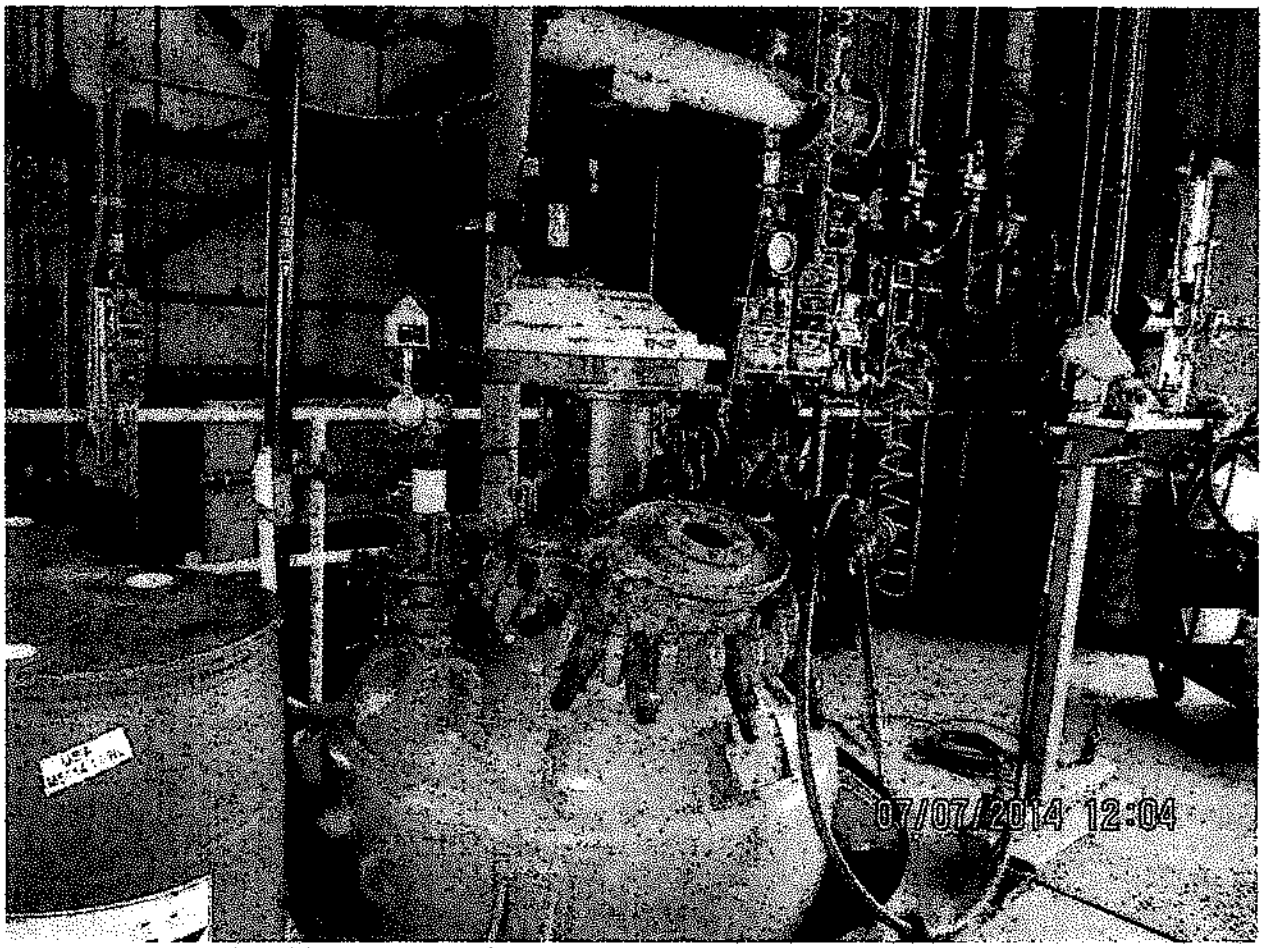
- PHA Industries was below the minimum FTE reporting threshold for TRI (so the facility does not have to report under TRI).
- The facility exceeded the TRI chemical processing threshold for three chemicals.
- There were several general duty clause concerns observed in the chemical storage building ("the pad") which included:
    - No signage on the building indicating that there were flammable chemicals present in the building.
    - Incompatible chemicals were stored next to each other (hydrochloric acid is incompatible with ethylacetate and most other chemicals in the building),
    - There was no aisle space between chemicals in the building, and
    - The facility stated that they do not have process hazard analysis for any chemicals.



1,500 gallon stainless steel reaction vessel with receiver for condenser to the right.

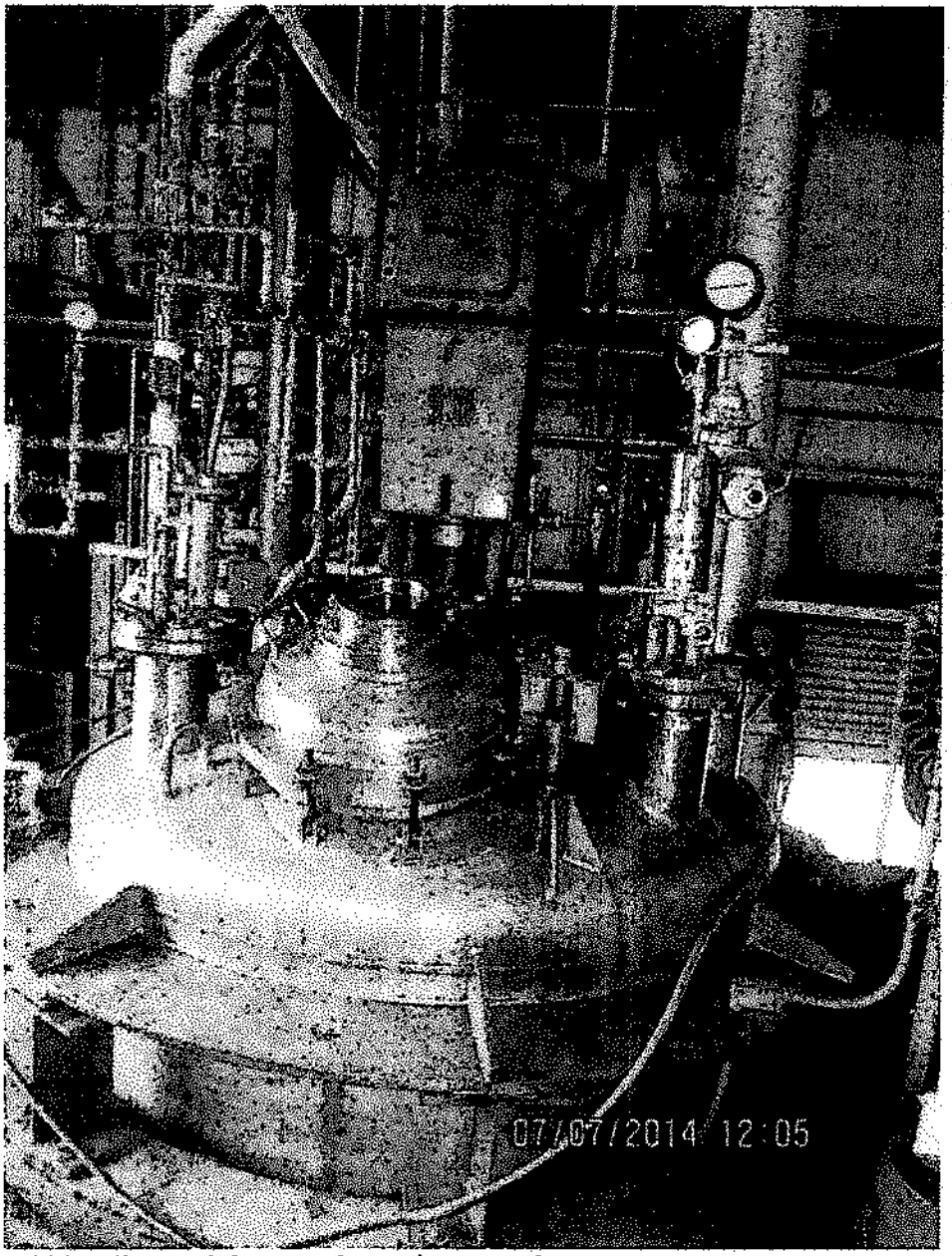


Four drums of Fluorosurfactant DX600SH used as an intermediate step.

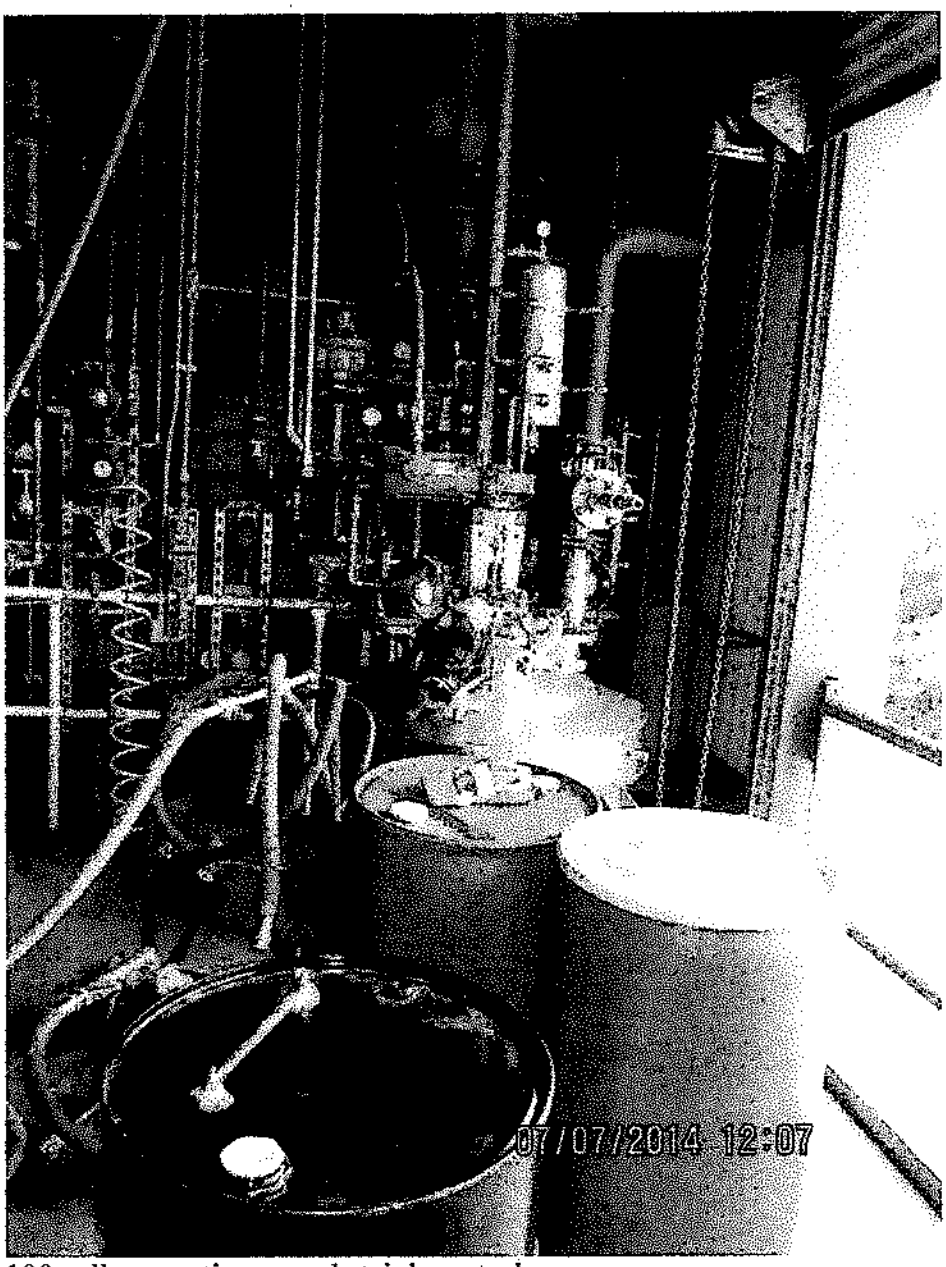


Three hundred gallon blue glass reaction vessel

Glacial acetic acid drum and 93% sulfuric acid

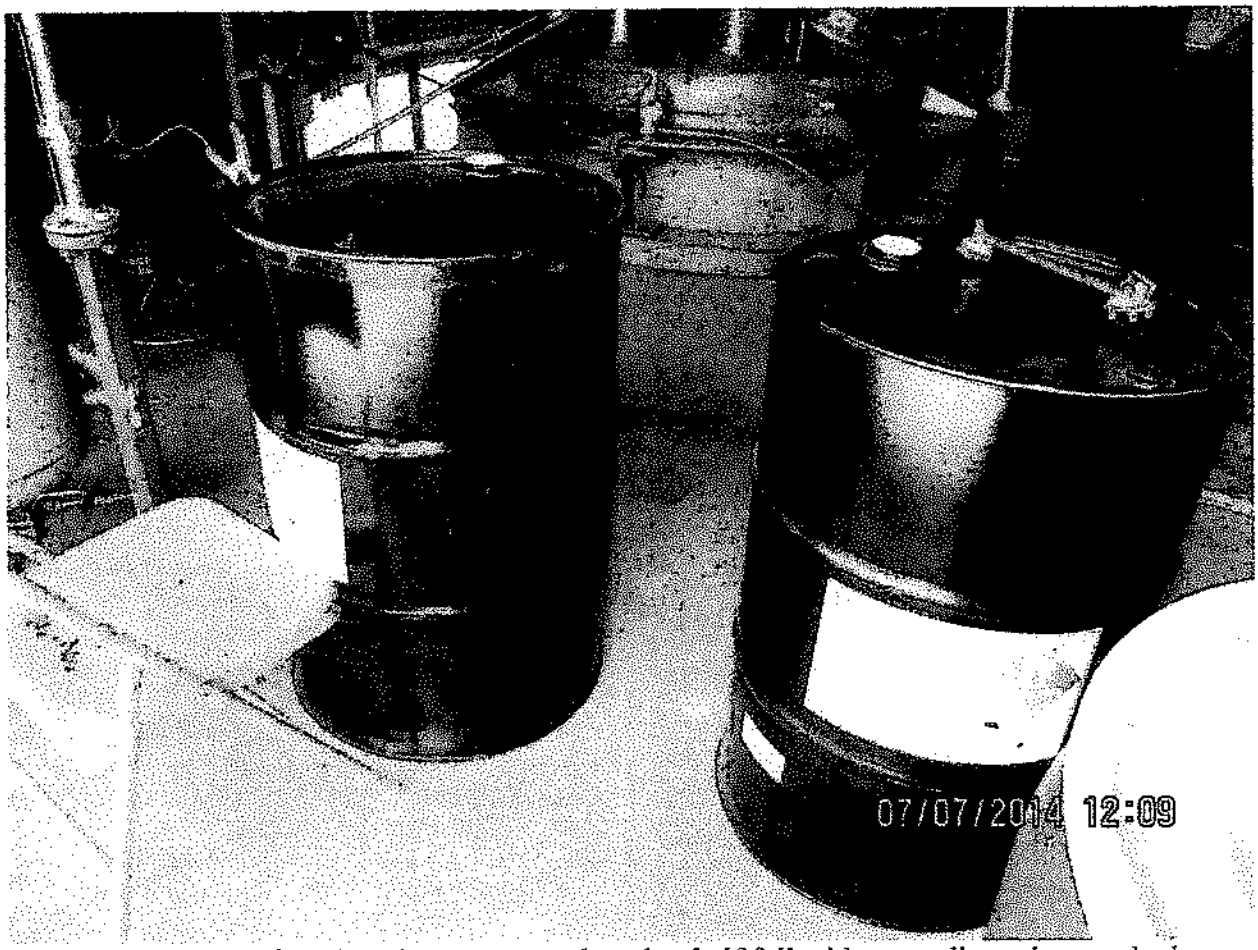


1,000 gallon stainless steel reaction vessel

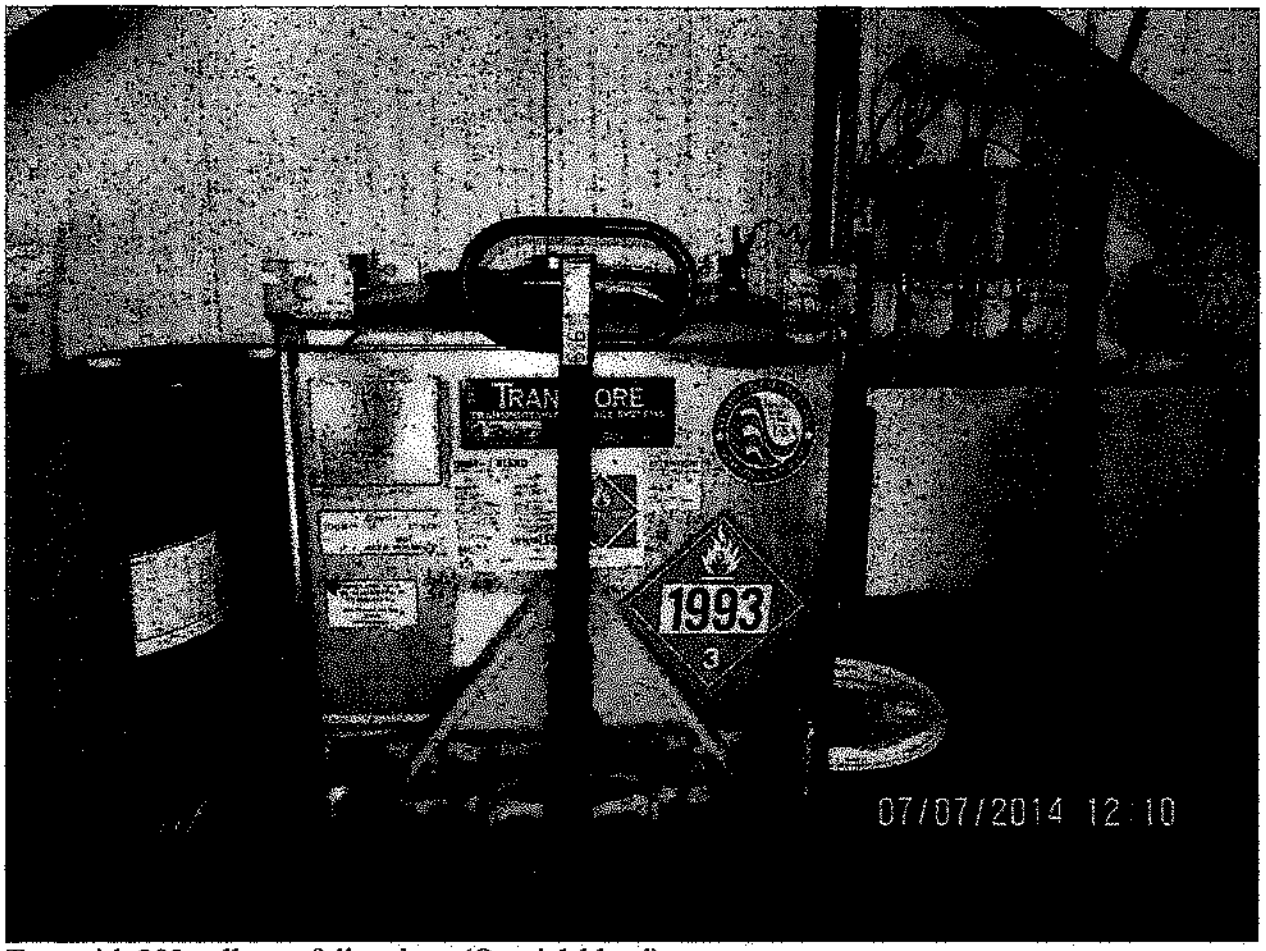


100 gallon reaction vessel stainless steel

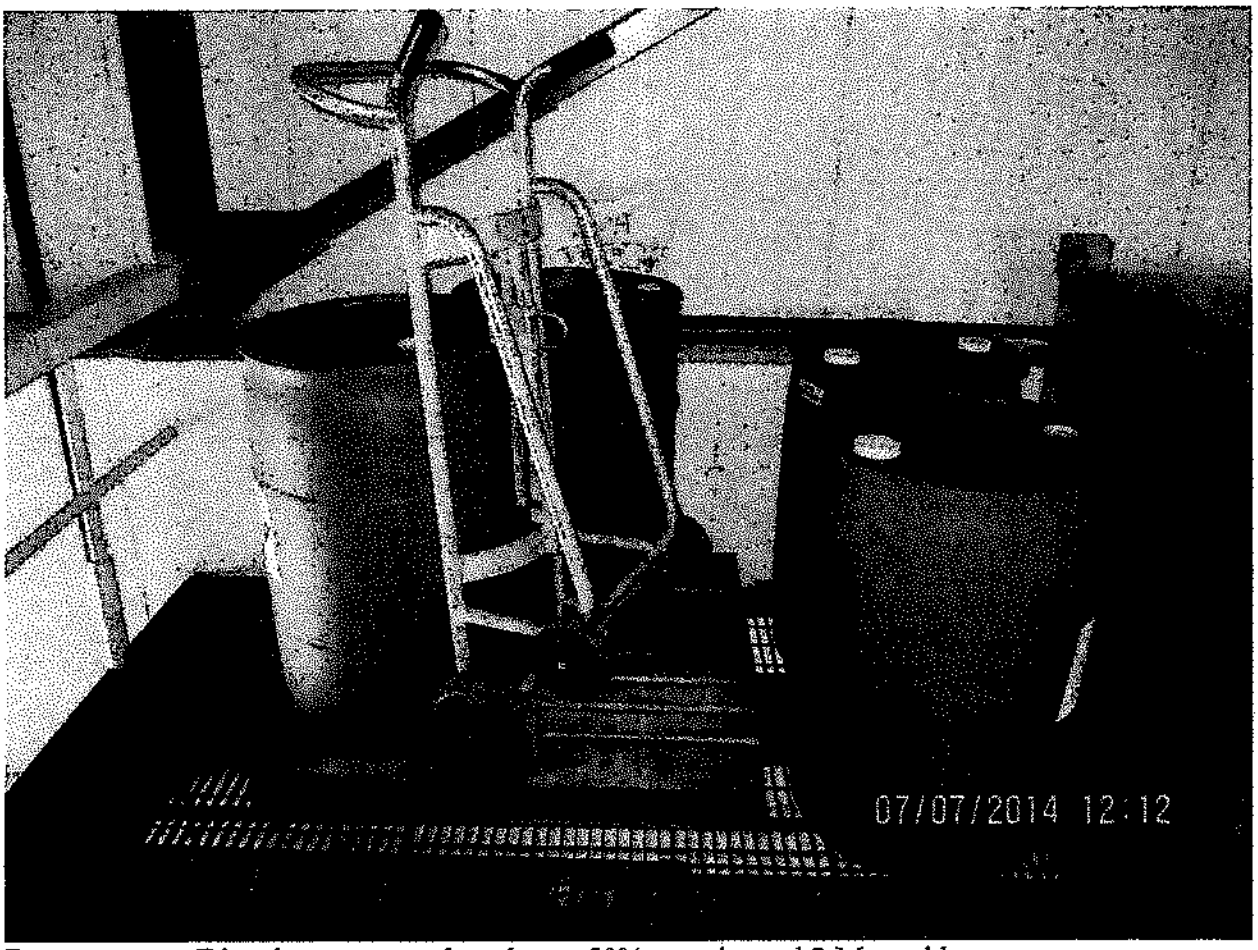
Fifty gallon stainless steel reaction vessel with 2 drums of methanol (one empty)



The same 2 drums of methanol, one empty, the other half full with grounding wire attached

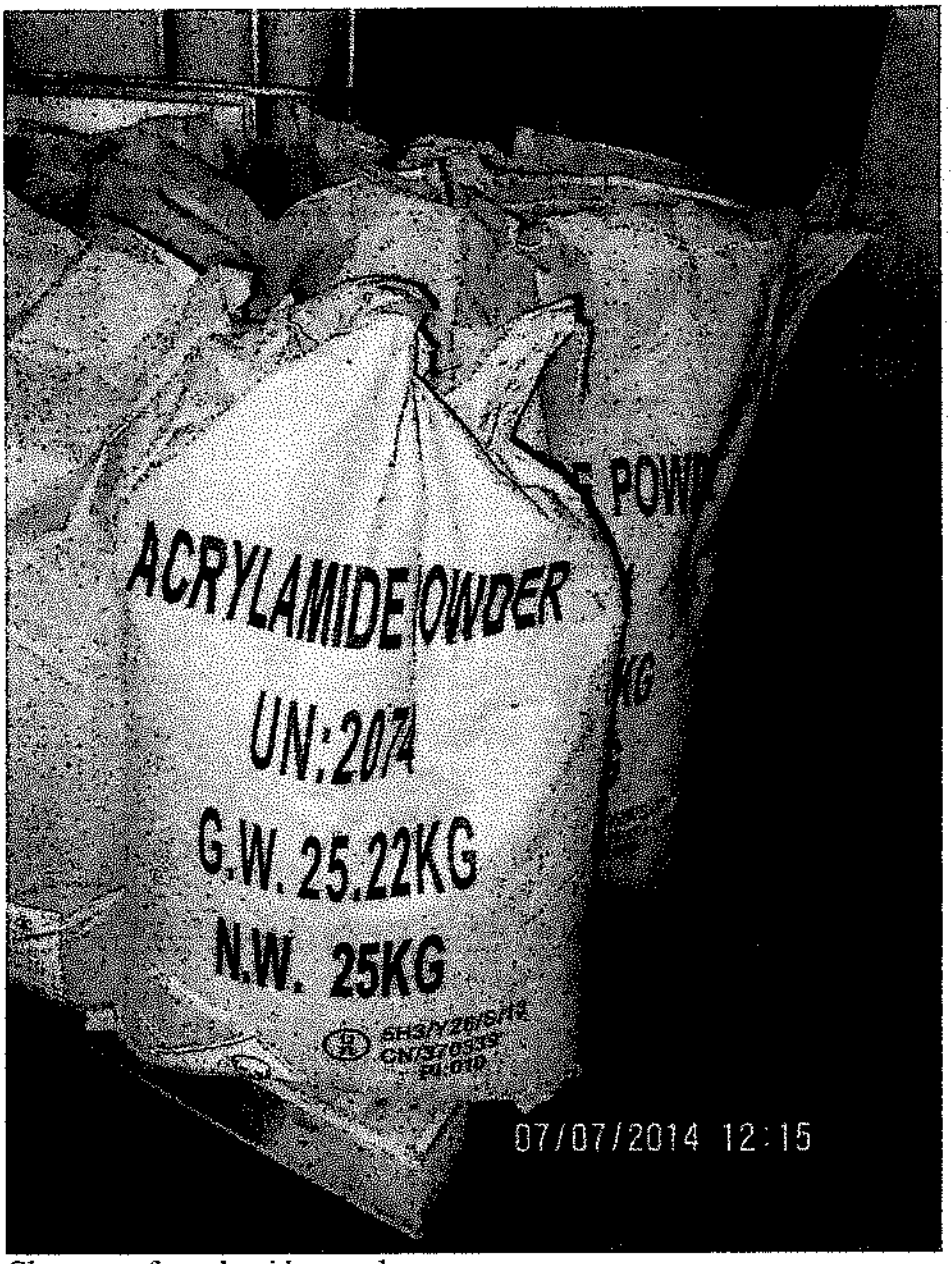


Tote with 283 gallons of dioxalane (Omni-1 blend)



Drums next to Diaxalane, one methanol, one 50% caustic, and 2 Mannchlor

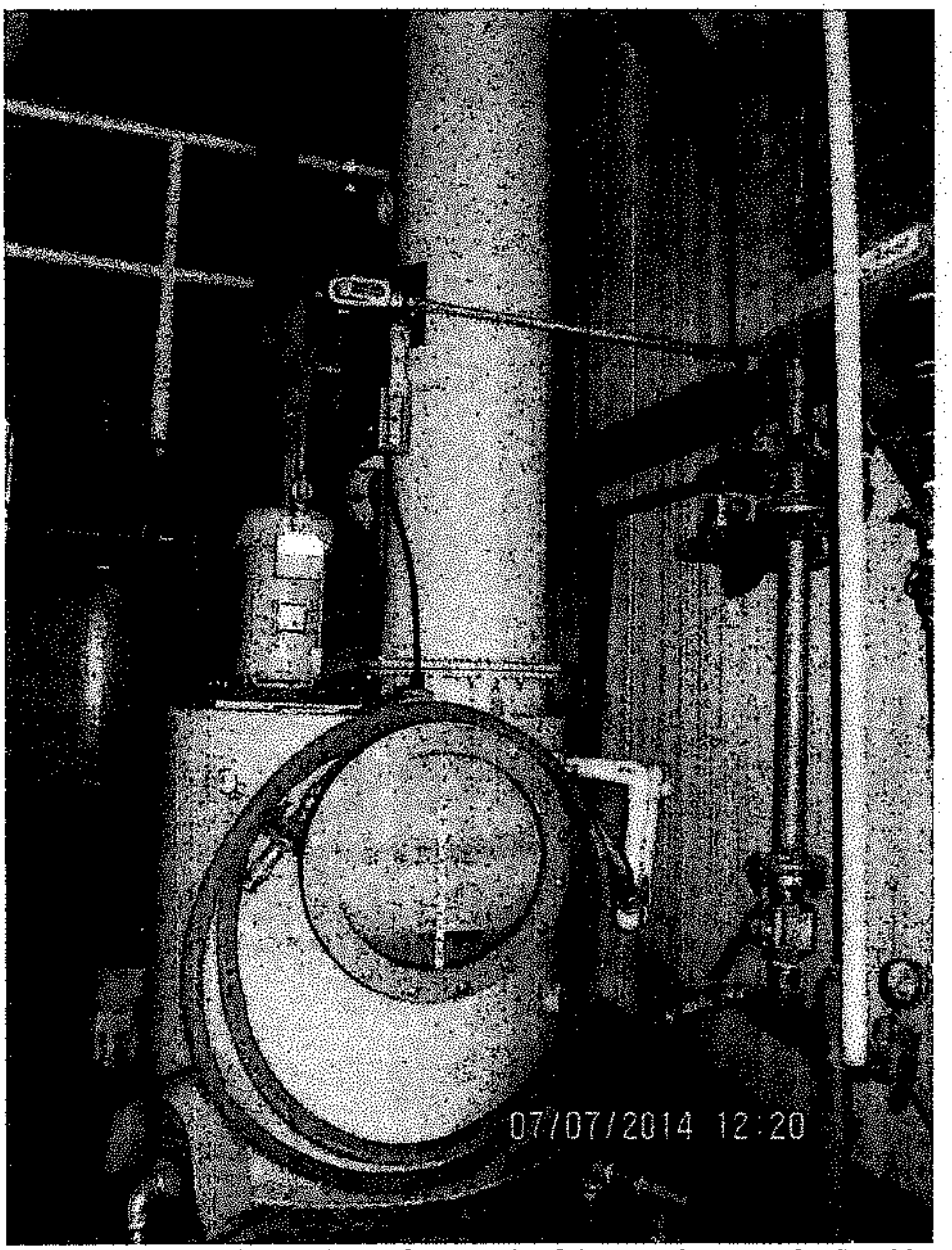
Bags of acrylamide powder 3 pallets on first floor, 37 bags of 25 kg



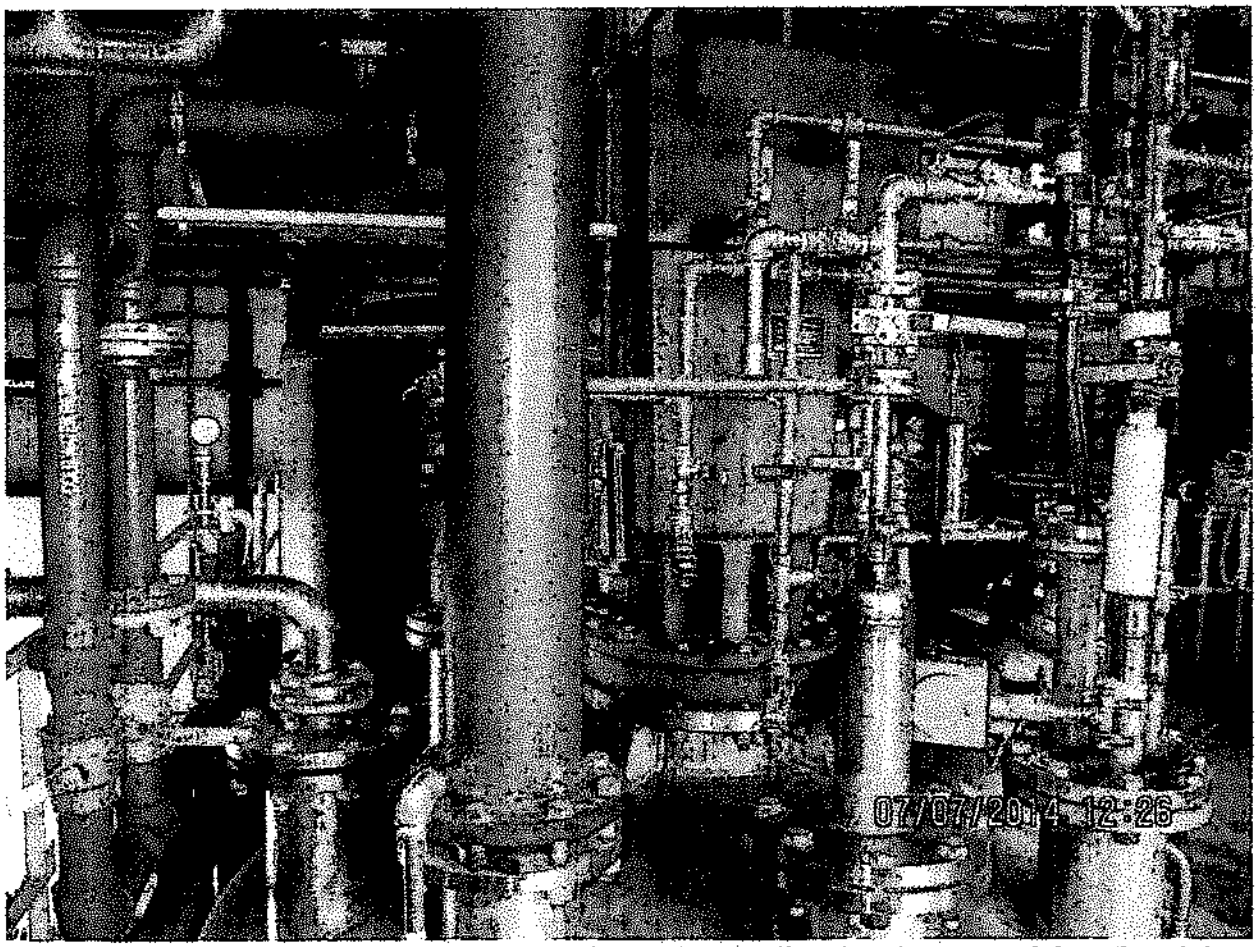
Close-up of acrylamide powder

Two pallets of Remover PG (CAS # 872-50-4) Each box contains four 4-liter bottles. Also five bags of acrylamide powder

Four drums of methanol on first floor with one drum grounded.



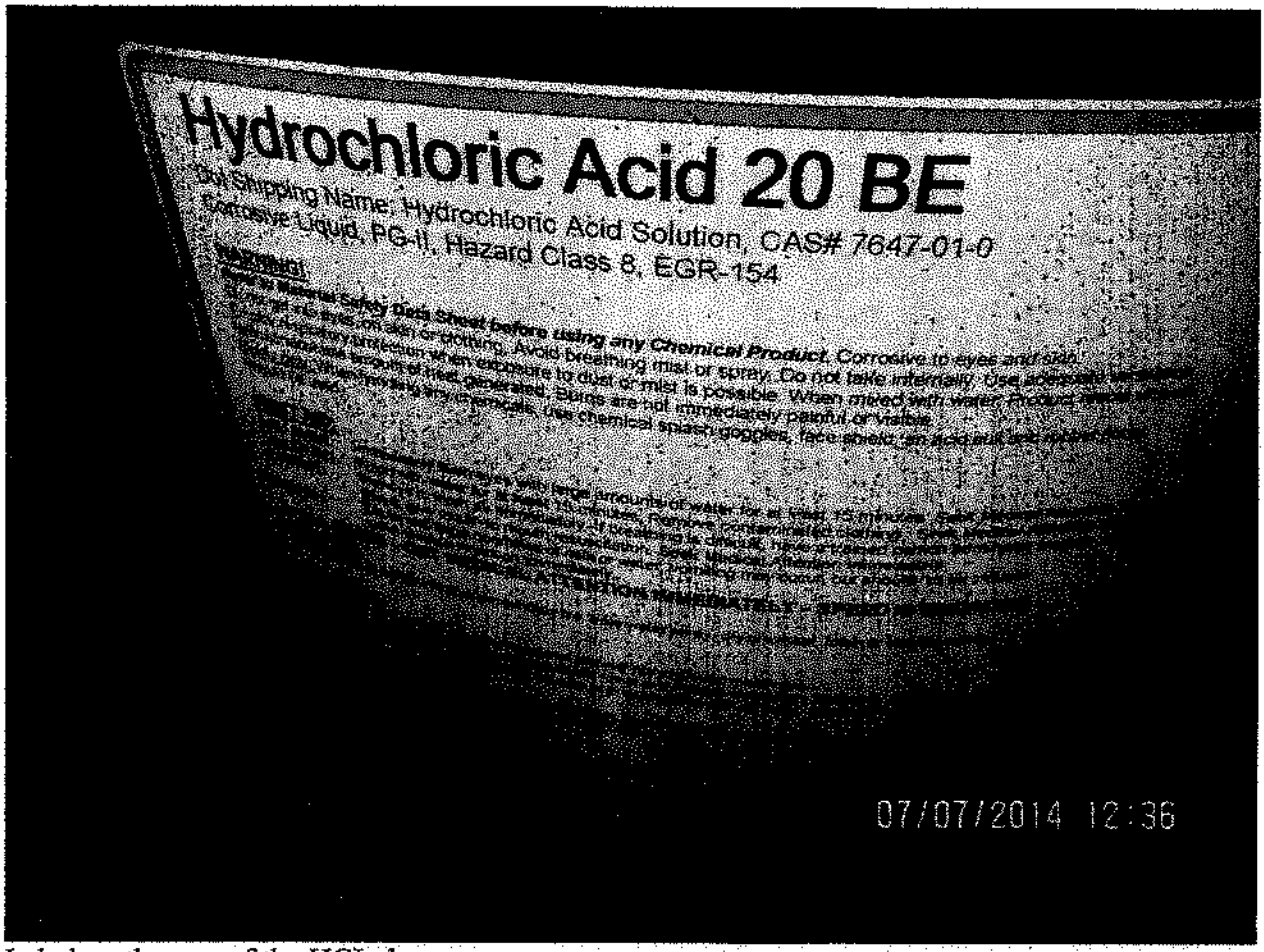
Scrubber that receives exhaust from each of the reaction vessels. Scrubber is only run when batch is being made. Exhaust is bubbled through caustic.



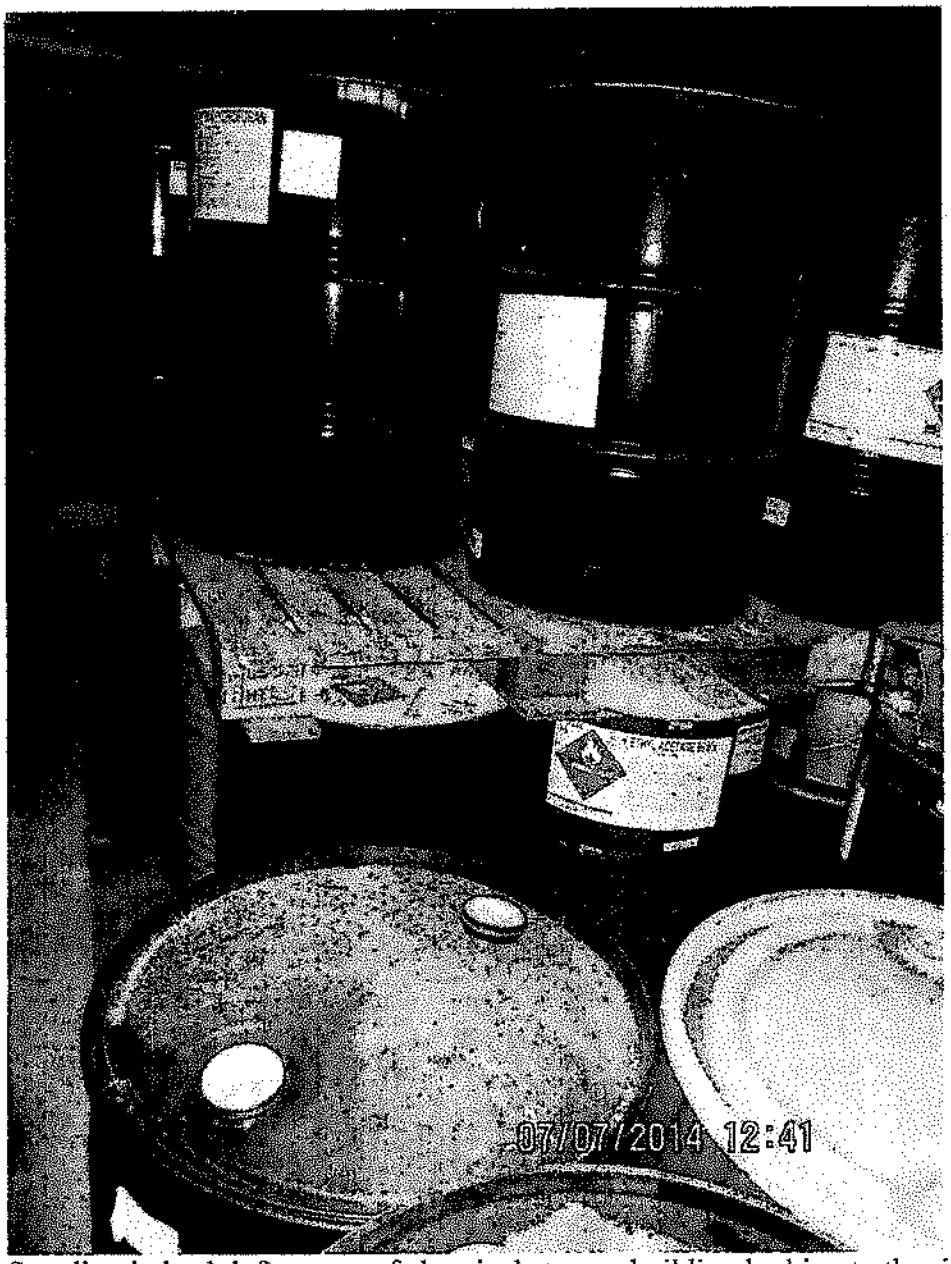
Piping on reaction vessel showing some labeling and some directional arrows. Otherwise piping has no labels.

Looking into chemical storage room (also called the "pad"). Note lack of aisle space

Three drums in the back left corner of chemical storage biulding, two black drums are drums are 20 baume hydrochloric acid.

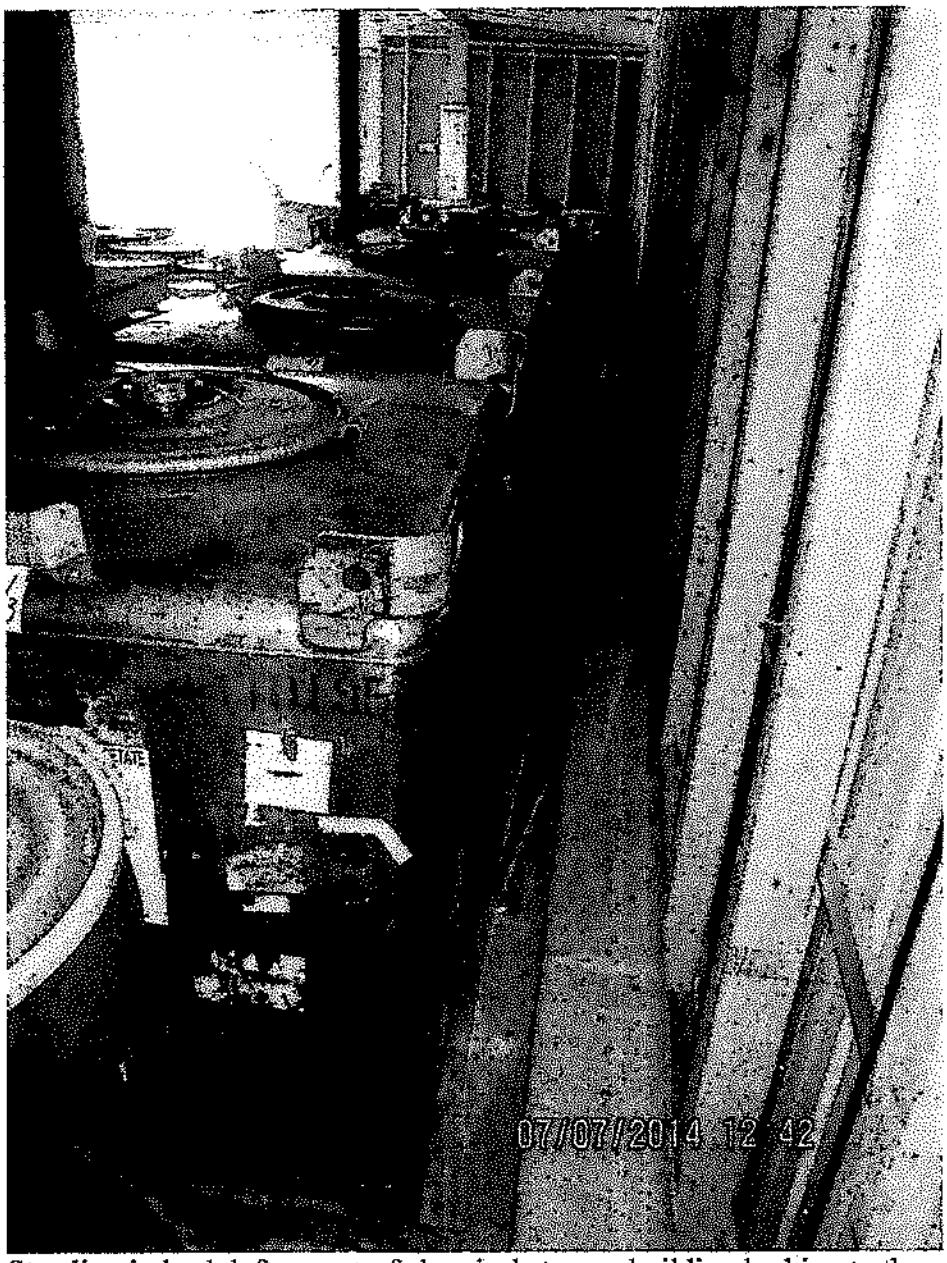


Label on the one of the HCL drums



Standing in back left corner of chemical storage building looking to the right corner of the building. Picture includes HCL and ethyl acetate drums

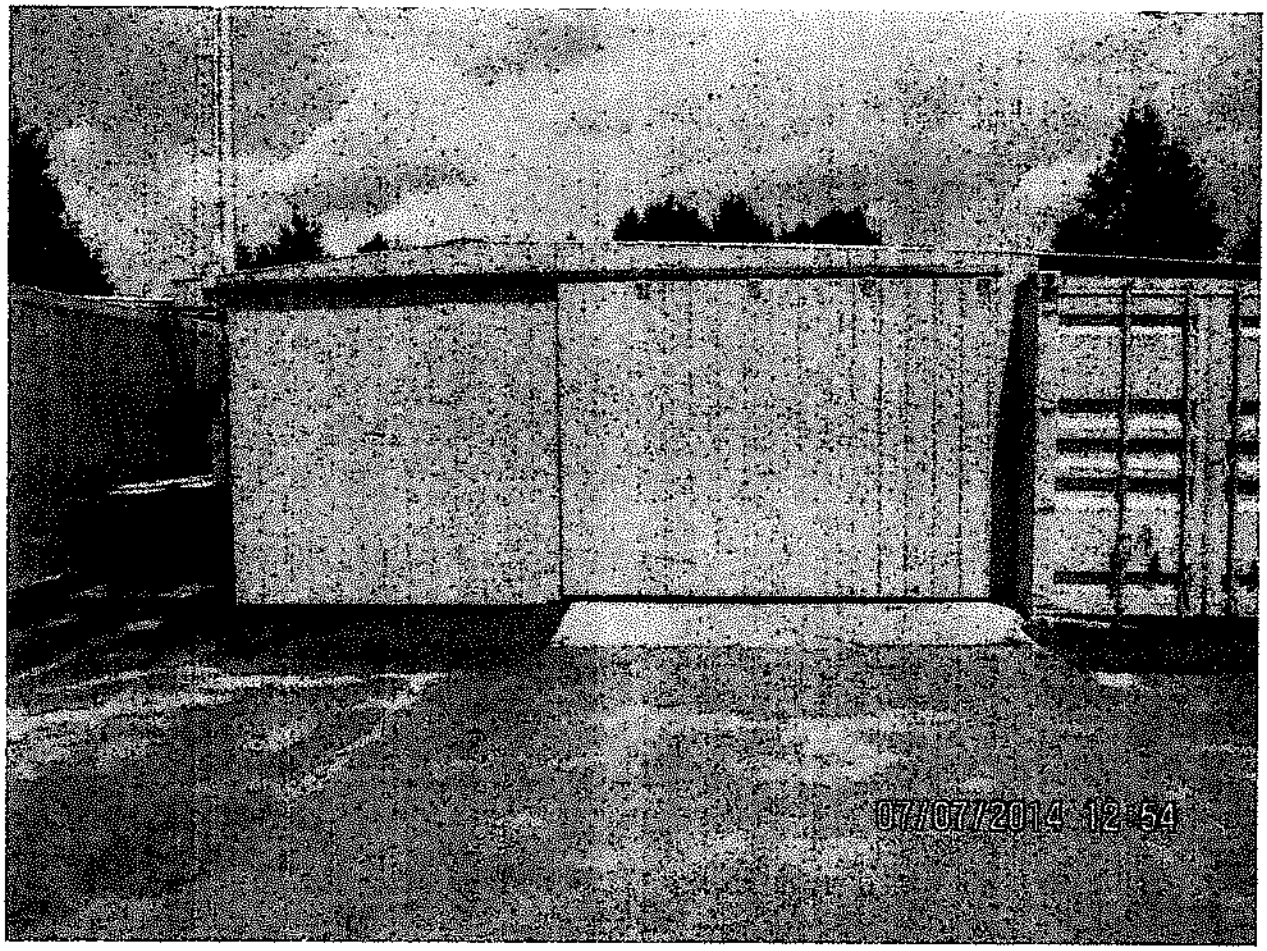
Standing in back left corner of chemical storage building looking to the center of the building. Picture includes HC , ethyl acetate drums and empty tote



Standing in back left corner of chemical storage building looking to the entrance of the building. Picture includes HCL , and empty totes

Looking into chemical storage room about one third into the building on right dike. Note lack of aisle space

Totes of wastewater in back of chemical storage room (6 full totes and the rest are empty)



Front of chemical storage room with door closed, note lack of signage.